IV. *Some Observations concerning* Insects *made by Mr* John Banister *in* Virginia, *A. D.* 1680. *with Remarks on them by Mr* James Petiver, *Apothecary and Fellow of the Royal Society.*

V *Espæ Ichneumones.* Here are divers kinds, long and slender wasted all, these make their Nests of Dirt, and are therefore called *Dirt Wasps.* Some of them make their Nests contiguous to one another, each adjoyning Cavity having in it 2 or more partitions: Others build them in clamps one upon another; they fix them against a Wall or Ceiling of an house, or any where where dry. There is not above 2 *Wasps* belonging to one of these *Vespary*'s, for when they have made one Cell, and put into it 6 or 8 live *Spiders*, they close it up to work upon another, leaving them to brood upon their young, something like that of *Aristotle* in his *Hist. Animal.* Lib. 1. cap. 20.

The young ones of these are cased over with a thin transparent horny skin of an Amber colour; those of the *other* are contained in a brown case, with a certain number of regular protuberances at one end thereof, *some* again lye in brown ones that are *smooth*, and *some* (if I mistake not) *naked.* I have not had leisure this year to inquire so far into their *generation, production, &c.* as I would, *vid. Mart. Lister Hist. Animal*, cap. 5. *libr. de Araneis* in genere.

We have several other coloured *Wasps.*

Two *black* and *white*, that build their *Nests* on the small branches of *Trees*: Of the lesser kind of Nest, there is a very good *Figure* and *Description* in *Piso* his *Nat. Hist.* of *Brasile* lib. 5. cap. 12. p. 287. only as it seems to stand *erect*, it should have been made *pendulous*: This is of an oval form,

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and about the bigneſs of a *Gooſe Egg*. The other is much larger and more round; the Waſps alſo are ſomewhat bigger. A *Third* ſort I found in ſhape and colour like our common *Engliſh Waſp*, whoſe little Neſt was half round (like the *Bell* of a *Clock*) fixt under the covert of a rotten Logg. Theſe *Neſts* in colour reſemble brown paper, only the laſt tends to a *Brimſtone* colour. Here are others brown with purple wings, and *ſome* with ſtreaks of yellow under their bellies. Theſe make their Combs of the ſame matter the former do, but naked without any cover, and therefore commonly chooſe the ſhelter of a houſe, *&c.* tho I have ſeen them ſticking in a *Buſh*: Here are alſo ſome *Philamot* ones with purple wings, and other large ones *black* and *yellow*, with a Mouth like a *Brieze* or *Stout*, and one *Red* and *Black* without wings, whoſe ſting is very long. *This laſt is a very ſingular Waſp, and the only one I have as yet ſeen without Wings, it was firſt given me by* Mr James Marſhal, *who had it from* Virginia, *ſince which I have received it from* Carolina, *amongſt ſeveral other* curious Inſects, *my kind Friend Mr* Edmund Bohun *was pleaſed to ſend me from thence. I alſo remember to have ſeen it amongſt thoſe our very ingenious Friend*, Dr David Krieg, *Fellow* of this *Society*, made whilſt in *Maryland*. I think it may not improperly be called *Veſpa* Virginiana *impennis, ex nigro rubroq;, mixta.*

Bombylus Teredo. Theſe *Bees* eat into *Timber*, and there make their *Neſts*. This was in the *Joyce* of a *Houſe* ſo firm and ſound, that it was very hard entring with a Peircer, the hole was but juſt big enough for the *Bee*, to creep in at, and went right up, about 2 inches in the Wood, and then in a tranſverſe line at leaſt half a foot on each ſide, which ſeem'd to me (as I probed it with a knitting Needle) to be twice as wide as the entrance, how many Bees belonged to it I cannot tell, 3 there was in, and I heard one or two about the door.

Mouffet

Mouffet at the latter end of his 6th *Chapter* de *Propoli*, p. 36 ſays, there are 4 ſorts of *Hyve-droſs*. 1. 'A Popu-'lo nigra tantum colligitur, quam *Ægyrinam* vocant, co-'lore flavo aut fulvo, tractatu mollis eſt & *Viſci* inſtar ſe-'quax, odorem habet ſuavem, jucundum capiti gratum, 'ſomniferum, *ſtyracis* æmulum, ſapore *Populneis gemmis* 'reſpondet. The young Buds of common *Black Poplar* I know do yield ſome ſuch glutinous matter, of which is made the *Unguentum Populeon* of the *ſhopps*. But there is a *Tree* in the lower parts of this Country called the *Balſam Tree*, whoſe *Leaves* both in ſmell and ſhape reſemble thoſe of *Black Poplar*. The *People* there call it *Balſam*, and make uſe of it for *Green Wounds*, *&c.* I believe it may be worth enquiry, whether the *Hyve-droſs* there differs from that in other parts of the Country, where this Tree does not grow, or whether what the Bees in *England* extract from the *Black Poplar* be as good, or whether this *Balm* be not better to make up *Salves*, as it comes from the Tree, or for any other uſe this *Propolis* is ſo much commended.

Oeſtrum. *Forte* Aſilus *Virginienſis* Pennei. 4.

Muſca carnivora *Vivipera*. A ſmall brown Fly, that extrudes live *Maggots*. 5.

Cicada & earum exuviæ, *Mouf.* 130. Thoſe inſects that deſtroyed the Trees in *New England* were *Cicadæ*. Phil. Tranſ. No. 8. p. 137. 6.

I this day (*viz. May*, 20. 1701.) *received from the Reverend* Mr Hugh Jones *in* Maryland, *amongſt other Inſects*, &c. *a very large* Cicada, *which exactly agrees with the* 2 *uppermoſt bigger ones*, *Figured* in *Mouffet*, *pag.* 130. *towards the right hand*, *but I cannot* with Mr Baniſter *think*, *it were theſe Inſects that deſtroyed the Trees*, *becauſe they have no Forcipes or other Grinders to eat the Leaves*, *but only a Tube*, *through which they ſuck in* Dew, *which is all the Nouriſhment that I can underſtand they live on*, *and moſt Writers confirm the ſame*. Mouffet *cap.* 17. p. 127. *lin.* 3.

Rore Vitam ſuſtentans ſatis Arboribuſq; non nocens. *Virgil* alſo ſays, *Paſcuntur dum rore Cicadæ*, to which alſo *Theocritus* the *Greek* Poet *alludes* μὴ πρῶκας σιτίζετι ὥσπερ τεττιξ *Doth he live on Dew like a* Cicada *or* Dew-fly ? *for ſo I chuſe rather to render it, and not a* Graſhopper, *as moſt Authors do, which is the next,* viz.

7. Locuſtæ. *Graſs-hoppers.* Barrard *in* Exod. 667. 8. *I have from theſe parts a very rare kind, whoſe wings are wholly green, and without any ſpots or veiny retticulations, as the common great one always has, for which reaſon I thus diſtinguiſh it.* Locuſta *Americana* major, alis viridibus opacis. *This or one very like it, I remember to have ſeen amongſt thoſe Inſects* Dr Sloan *brought from* Jamaica.

8. *Mantis.* 'Tis neither of the Tree that *Mouffet* deſcribes p. 118. Nor are thoſe 2 Figures in his *appendix* like it. That of *Piſo* moſt reſembles it, *lib.* 5. cap. 21. p. 317 but his of an *Inſect* becomes a *Vegitable*, which I dare not aver of mine.

9. *Blattæ.* Theſe *Cockroaches* are one of the Plagues of this Country. They are *Oviparous* ſtrange and large, that had I not ſeen one half extruded, I ſhould not have believed them theirs. The *Peruvians* call theſe *Araners*, Mouffet. p. 139. *But I rather think he meant the* Braſilians, *and that his* Serius *ſhould be* Lerius, *who wrote* a Voyage *to* Braſil *in* French A. D. 1594. *where* p. 159. *he calls them* Arauners *and not* Araners. *Cluſius* alſo in his *Exoticks* p. 306. *in his notes on* Monardes *takes notice of the ſame.*

10. Blatta Volans. Theſe are very rare, I have ſeen but this one here.

11. Cimices. *Wall-lice.* Theſe are another of our Plagues, for where there is not great care taken to deſtroy them, they are as numerous in our Beds, as the former are in our Kitchens.

12. Cicindela mas. The Fire-fly.

Cicindela Mariana *vaginis teneris fuſcis marginibus fulvis* Act. *Phil.* 246. p. 397. 16. This

This is not that great *Virginian* kind, whoſe head ſhines, nor is it that ſmaller one, which *Piſo* ſays the *Braſilians* call *Memoa*, nor the common kind, tho much of that ſhape and ſize. This emits its light at 2 Creſcents, but the whole tail of ours ſhines, which it contracts and dilates at its pleaſure. Its ſheath wings are of a dark purple edged with yellow, and ſo is its head or helmet.

This is exactly deſcribed, and the ſame with thoſe of Carolina *and* Maryland *from both which places I have received ſeveral of them. Yet amongſt thoſe from* Carolina, *which my ingenious Friend* Mr Edmund Bohun *ſent me, I find a variety, whoſe ſheaths were wholly* blackiſh, *but the* Helmet *edged with* yellow : *This I call* Cicindela *Caroliniana* vaginis omninò nigricantibus. 13.

Cicindela Fæmina. *The Glow-worm.* Is armed *Back* and *Head* in Joynt Armour of a deep *Murray* colour faſtned to the *Thorax*; The *Tail* made of 9 ſhelly rings, in the laſt of which are viſible the 2 ſhining points. Its *Head* is black, ſo ſmall one cannot without the help of a Glaſs, perfectly diſcern the contexture of it. Its *Eyes* (if it have any) like thoſe of a *Snail*, ſtand on the tops of 2 horns. It has 6 legs. 14.

Scarabeus Πλατυκερως mas ſeu minor, *Moffet* 149. 15.

Scarabeus niger ore cornuto ſeu forcipato, capite & ſcapulis colore ſuccino elytris lute is eleganter notatis. 16.

Scarabeus ore cornuto, Elytris purpureis, ſcapulis nigris cuti more cavis. *This is found among rotten Wood, Loggs, and when he is caught, makes a ſmall ſqueeking noiſe.* 17.

Scarabeus Naſicornis ore cornuto. 18.

Scarabeus Melolonthes Naſicornis. 19.

Scarabeus Magnus noſtratus ex nigro eleganter albo depictus. *Found on a rotten Log, 60 miles above the habitable parts of* James's River. 20.

Scarabeus Βυκερως cornibus obtuſis. 21.

Scarabues Αιγοκερως. 22.

This

This is the Holy Beetle in the *Tab. Hieroglyphica* mentioned by the Learned Mr *Gregory* in his *Preface*. Here are multitudes of them in the Summer time. I have often inſpected their rowling Pellets, yet could not find any alteration in the maſs of matter thro their motion, till at length I met with one of theſe then deſerted balls, in the center whereof lay a ſmall white grub, which poſſibly might owe its life to the motion. I ſince found in one of theſe Balls 2 very little young Beetles, differing in nothing but magnitude from the old.

24. Scarabeus *Stercorarius* alter, ore forcipato.

25. Scarabeus *Stercorarius* Capite, Scapulis & Elytris quaſi ſculptura excavatis. *An* Cantharus *Carolinianus* obſcure cuproſus, vaginis inæqualibus *nobis*.

26. Scarabeus *Stercorarius* Noctu tantum volans.

27. Scarabeus *Melolonthes*. This and that other *Dung-Beetle* you find amongſt the *Naſi-cornes* are not deſcribed, but may I think be very aptly rankt with thoſe of this kind.

28. Scarabeus *luteo-viridis*. They are found amongſt *James-Town Weed*, i. e. *Strammonium*.

29. Scarabeus *minor viridi-cæruleus*. Theſe lye among the *Flowers* of the *Apocynum*.

30. *Scarabeus* colore viridi auro radiante & luteis maculis eleganter notatus. *An* Cantharis *Anglica* viridis, maculis aureis inſignitis, *Act Phil.* No 246. p. 397. 17. I know not but theſe 3 laſt may be *Cantharides*.

Here is alſo a ſmaller kind, all Black.

31. 32. Scarabeus *colore griſeo, ſcapulis binis quaſi oculis nigris mollitie pubeſcentibus notatus*. It is found among rotten Wood, and is called a *Snapper*, from the noiſe it makes by thruſting part of its *Neck* into its *Breaſt*, and ſpringing it back again: It ſomething reſembles the *Cicindela Virginienſis* of *Mouſet*, but its Head ſhines not.

I have made the ſame Obſervation *as Mr* Baniſter *has of the ſpringing faculty of this elegant* Beetle, *and alſo fully de-*

deſcribed it (in the Philoſophical Tranſactions *No.* 246. p. 396. No. 13. *) by the name of* Scarabeus elaſticus major *Americanus*, capite bimaculato, *to which I refer the Reader.*

Scarabeus *arboreus* piloſus. 33.

Scarabeus *arboreus* minor glaber. 34.

Theſe two kinds they ſay the *Indians* eat.

The following Beetles I have alſo received from thoſe parts. Beſides thoſe I have mentioned from Maryland *in the Philoſophical Tranſactions*, N. 246. p. 395, *&c.*

Bupreſtis Mariana *viridis*, *vaginis ſulcatis & punctatis.* 35. I am very much obliged to the Reverend Mr *Hugh Jones* in *Maryland*, from whom I juſt now received this elegant *Beetle*, with the great *Cicada* above-mentioned, as alſo ſome *Birds*, *Fiſh*, *Foſſills* and *Plants*, all very curiouſly preſerved.

Cantharis Carolinianus *niger*, *undis palleſcentibus.* 36.

Cantharus Marianus *viridis perelegans*, *vaginis ſulcatis ſignaturis flaveſcentibus ornatis*, Gazophylacij *Naturæ* noſt. *Tab.* 2. Fig. 2. 37.

Cantharus Marianus *minor*, *vaginis ex nigro flavoq; ſtriatis.* 38.

Capricornulus Carolinianus *vaginis ex nigro luteoque mixtus.* This differs from *No.* 20. in the *Act*, *Phil.* 246. p. 397. in having its ſhoulders black, and only edged with yellow, and its ſheath wings equally mixt, whereas that from *Maryland* has moſt black in its ſheaths, and a yellow ring round the midſt of its ſcapula. 39.

Crio-ceros Marianus *Caſtanei coloris*, *antennis tortilibus membranaceis.* This reſembles the 2*d* *Figure* in *Mouffet* p. 153. 40.

Crio-ceros Marianus *Caſtanei coloris*, *antennis tenuioribus geniculatis.* This is ſlenderer than the laſt, both in Body and Horns eſpecially, otherwiſe very like. I believe they are *Male* and *Female.* 41.

Curculio Carolinianus *ruber*, *maculis nigris.* 42.

Melolonthes Marianus *maximus*, *maculatus.* 43.

Melo-

44. *Melolonthes* Marianus *viridis, marginibus flavis.*

45. *Naſicornis Tauroceros* Marianus *ſplendens Caſtanei coloris.*

46. *Scarabeus* Carolinianus, *oblongus, niger, forcipatus, vaginis ſtriatis.*

47. *Scarabeus* Carolinianus *ſubrotundus niger lævis.*

48. *Scarabeus* Marianus *Pediculoſi noſtro ſimile.* The ſulcæ or furrows on the Vaginæ in this are larger, otherwiſe very like No. 9. in our *Muſeum.* p. 4.

49. *Scarabeolus* Carolinianus *nigro flavoq; mixtus.*

50. *Teſtudinulus* Carolinianus *flavus margine tranſparente.*

Theſe two laſt and the reſt from *Carolina*, I received ſome time ſince, from my hearty and worthy Friend Mr *Edmund Bohun*, who hath given me adviſe of many others he hath now ſent me from thence, with ſeveral curious *Plants, Seeds, &c.*

51. Phalena magna cinerea cruribus ſpinulis armatis. *The Horn worm Fly*, ſo called from a *horn'd Eruca*, or *Caterpillar*, that feeds on green *Tobacco*, and towards the fall creeps into the ground, and becomes an Aurelia of a reddiſh brown colour, in which the proboſcis of our Moth has its involucrum, &c.

52. Tinea *Scorpiunculatis* libros depaſcens. *Mouffet* tells us in 2 ſeveral places of ſuch an Inſect, which he has deſcribed in his *Chapter* of *Scorpions*, p. 172. Whether that of ours be that he means, I cannot define, till I find the deſcription he talks of. It has 8 Legs beſides its Claws, and creeps very faſt, both backward, forward and ſideways, and is found in old muſty Books.

Phalangium *Imperati* 681 deſc. and 692 Fig. *Mouffet*

53. has in his appendix given 2 figures of this Spider, in that that ſhews its fore parts, you have the ſite and poſition of the 4 greater eyes, but the 4 ſmaller ones, that lye in a ſtraight line under them, diſcernable alſo to the naked eye he has omitted to expreſs.

54. *Phalangium* alterum oculis quatuor majoribus in ſegmento arcu circuli, ſurſum curvanti totidemq; minoribus ſimili more ſubtus in fronte diſpoſitis.